

Date: 10 June 1982

Memorandum

From: Ms. Betz, Quality Control Lab., Environmental Section, NREAB, BMaintDiv

To: Mr. Sharpe, Supervisory Ecologist, Environmental Section, NREAB, BMaintDiv

Subj: Camp Geiger Potable Water

1. On 8 June 1982, Mr. L. Mitchell, of Emergency Services, called the lab about the problem they were having with the air conditioning systems in the new barracks at Geiger. We set up to meet at Bldg G-530, at 1330, on 9 June 1982 to take a look at the problem and probably take some samples.
2. On 9 June 1982, Gaines Huneycutt and Elizabeth Betz, of this lab, met Mr. J. Todd, of the Air Station/Camp Geiger unit of Emergency Services at Bldg G-530. They showed us some white substance; they called lime, that they had gotten out of the air conditioning unit. The substance was probably calcium carbonate, a precipitated product of adding lime (CaO or Ca(OH)₂) to water. Mr. Todd said they had just finished cleaning all the systems. We requested to pull a sample from the air conditioning system that was cleaned first. We went to bldg G-540 and got some water from the air conditioning unit. We also stopped by the New River Water Treatment Plant and pulled a water sample for comparison.
3. That afternoon, Gaines Huneycutt and Gerry Monahan, of this lab, analyzed the samples for pH, alkalinity, carbonates, bicarbonates, chlorides, hardness, iron, and stability. On all tests, the results were noticeably higher from Bldg G-540 than from the Water Plant.
4. The air conditioning systems recycle the water. From the test results, the recycling looks like it is concentrating the various components of the water, namely calcium carbonate.
5. I called Glenee Smith, the Steam Generation operations chemist, to see what they fed to the boilers, since they would have similar problems. The sales Representative from Southeastern Labs (the company that has the boilers contract) was with her, so I talked to him. He said that Southeastern had a line of chemicals that was designed to take care of the calcium carbonate problems in air conditioners.
6. I called Mr. Todd and told him that recycling the water was concentrating the problem and that there were chemicals that could be added to the systems regularly, either metered in continuously or just poured in on a schedule, that would solve the build up problem that is causing a reduction in heat transfer.

Elizabeth A. Betz
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 Supervisory Chemist

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